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Structure of heme

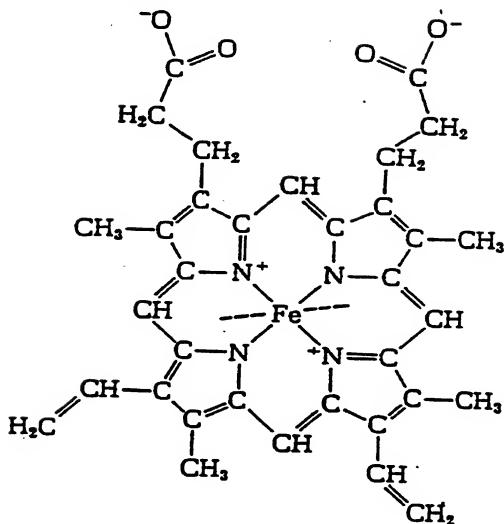


FIGURE 1

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Alpha globin sequence:

1 GTG CTG TCT CCT GGC GAC AAG ACC AAC GTC AAG GGC GGC TGG GGC 45  
 Val Leu Ser Pro Ala Asp Lys Thr Asn Val Lys Ala Ala Trp Gly  
  
 46 AAG GTT GGC GCG CAC GCT GGC GAG TAT GGT GCG GAG GGC CTG GAG 90  
 Lys Val Gly Ala His Ala Gly Glu Tyr Gly Ala Glu Ala Leu Glu  
  
 91 AGG ATG TTC CTG TCC GCG ACC ACC AAG ACC TAC TTC GCG CAC 135  
 Arg Met Phe Leu Ser Phe Pro Thr Thr Lys Thr Tyr Phe Pro His  
  
 136 TTC GAC CTG AGC CAC GCG TCT GCG CAG GTT AAG GGC CAC GGC AAG 180  
 Phe Asp Leu Ser His Gly Ser Ala Gln Val Lys Gly His Gly Lys  
  
 181 AAG GTG GGC GAC GCG CTG ACC AAC GCG GTG GCG CAC GTG GAC GAC 225  
 Lys Val Ala Asp Ala Leu Thr Thr Asn Ala Val Ala His Val Asp Asp  
  
 226 ATG CCC AAC GCG CTG TCC GCG CTG ACC GAC CTG CAC GCG CAC AAG 270  
 Met Pro Asn Ala Leu Ser Ala Leu Ser Asp Leu His Ala His Lys  
  
 271 CTT CCG GTG GAC CCG GTC AAC TTC AAG CTC CTA AGC CAC TGC CTG 315  
 Leu Arg Val Asp Pro Val Asn Phe Lys Leu Ser His Cys Leu  
  
 318 CTG GTG ACC CTG GCG GCG CAC CTC CCC GCG TTC ACC CCT GCG 360  
 Leu Val Thr Leu Ala Ala His Leu Pro Ala Glu Phe Thr Pro Ala  
  
 361 GTG CAC GCG TCC CTG GAC AAG TTC CTG GCT TCT GTG ACC ACC GTG 405  
 Val His Ala Ser Leu Asp Lys Phe Leu Ala Ser Val Ser Thr Val  
  
 408 CTG ACC TCC AAA TAC CGT  
 Leu Thr Ser Lys Tyr Arg

FIGURE 2

Beta globin sequence:

1 GTG CAC CTG ACT CCT GAG GAG AAG TCT GGC GTT ACT GGC CTG TGG 45  
Val His Leu Thr Pro Glu Glu Lys Ser Ala Val Thr Ala Leu Trp

46 GGC AAG GTG AAC GTG GAT GAA GTT GGT GAG GGC CTG GGC AGG 90  
Gly Lys Val Asn Val Asp Glu Val Gly Gly Ala Leu Gly Arg

91 CTG CTG GTT GTC TAC CCT TGG ACC CAG AGG TTC TTT GAG TCC TTT 135  
Leu Leu Val Val Tyr Pro Thr Gln Arg Phe Phe Glu Ser Phe

136 GGG GAT CTG TCC ACT CCT GAT GCT GTT ATG GGC AAC CCT AAG GTG 180  
Gly Asp Leu Ser Thr Pro Asp Ala Val Met Gly Asn Pro Lys Val

181 AAG GCT CAT GGC AAG AAA GTG CTC GGT GGC TTT AGT GAT GGC CTG 225  
Lys Ala His Gly Lys Lys Val Leu Gly Ala Phe Ser Asp Gly Leu

226 GCT CAC CTG GAC AAC CTC AAG GGC ACC TTT GGC ACA CTG AGT GAG 270  
Ala His Leu Asp Asn Leu Lys Gly Thr Phe Ala Thr Leu Ser Glu

271 CTG CAC TGT GAC AAG CTG CAC GTG GAT CCT GAG AAC TTC AGG CTC 315  
Leu His Cys Asp Lys Leu His Val Asp Pro Glu Asn Phe Arg Leu

316 CTG GGC AAC GTG CTG GTC TGT GTG CTG GGC CAT CAC TTT GGC AAA 360  
Leu Gly Asn Val Leu Val Cys Val Leu Ala His His Phe Gly Lys

361 GAA TTC ACC CCA GTG CAG GCT GGC TAT CAG AAA GTG GTG GCT 405  
Glu Phe Thr Pro Pro Val Gln Ala Tyr Gln Lys Val Val Ala

406 GGT GTG GCT AAT GGC CTA GGC CAC AAG TAT CAC  
Gly Val Ala Asn Ala Leu Ala His Lys Tyr His

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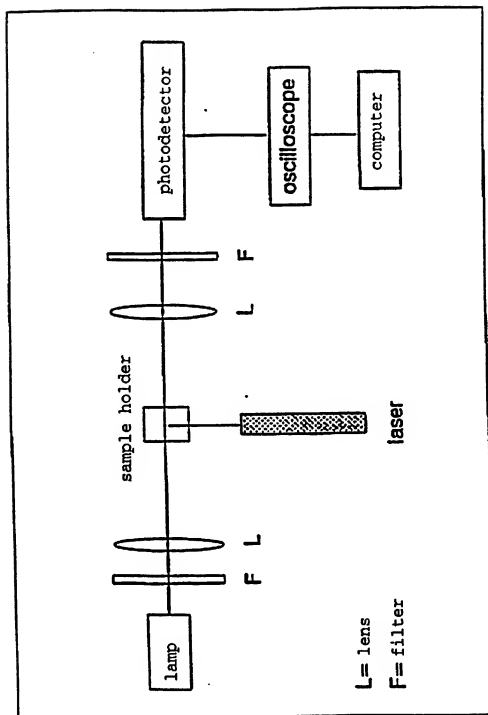


FIGURE 4

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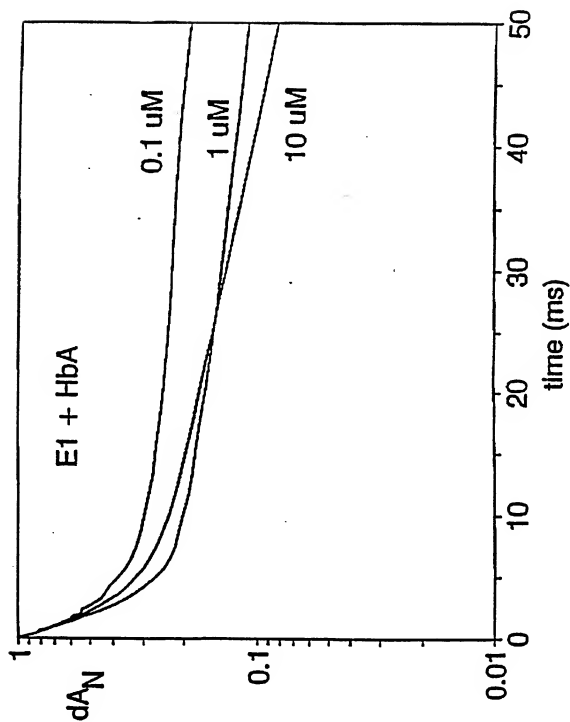


FIGURE 5

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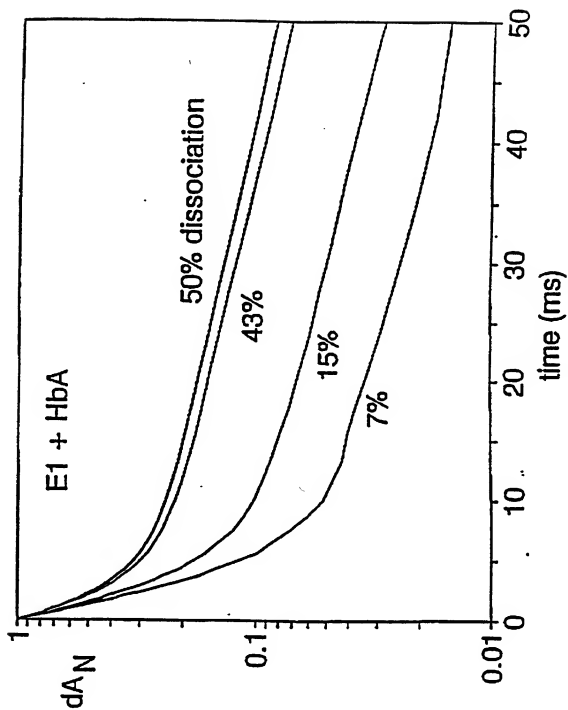


FIGURE 6

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FIGURE 7

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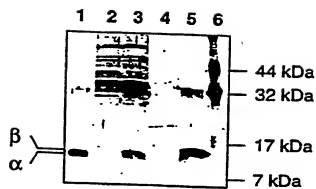


FIGURE 8



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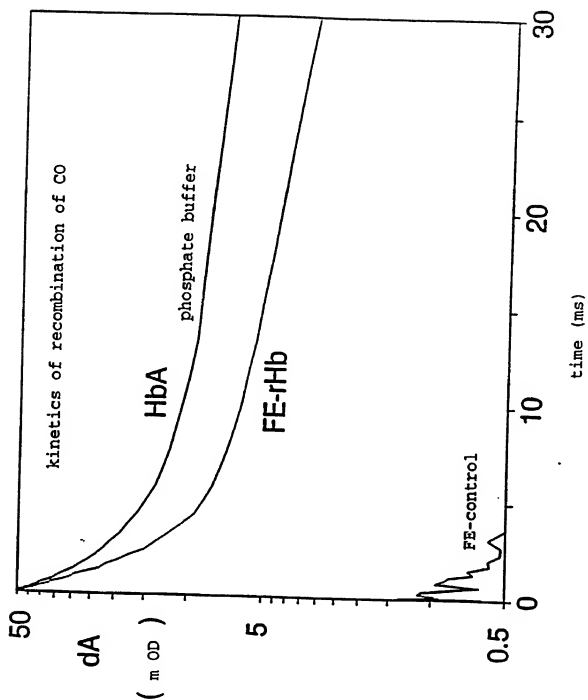


FIGURE 9

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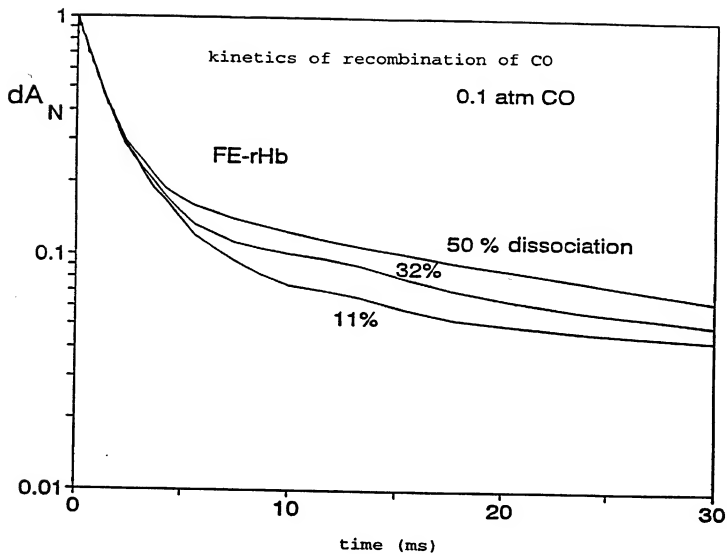


FIGURE 10

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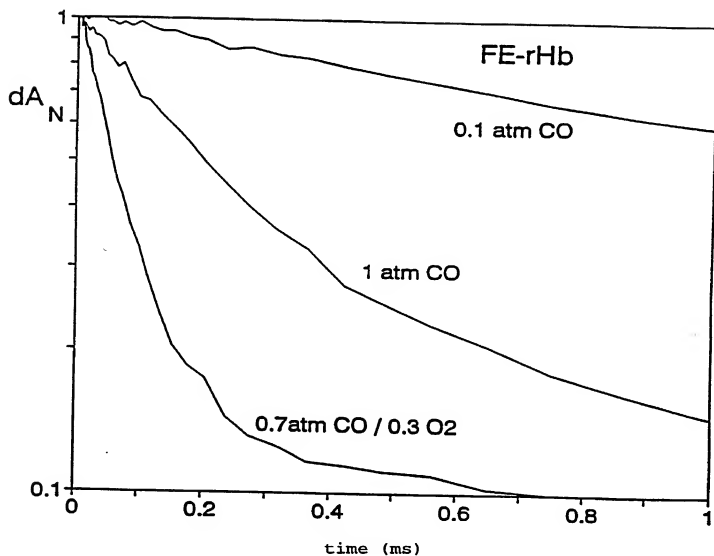


FIGURE 11